

P23901.S03

What is claimed is:

1. An apparatus that controls driving of a linear motor, comprising:  
a detector that detects a current applied to the linear motor;  
a controller that outputs a control signal based on the detected current; and  
a switch that varies the number of windings of a linear motor coil on the basis of the control signal.
2. The apparatus of claim 1, wherein the linear motor comprises a first coil wound with a first predetermined number of windings and a second coil wound with a second predetermined number of windings and connected to the first coil in series.
3. The apparatus of claim 1, wherein when a current dead zone where a current value from the current detector unit is zero for a predetermined time exists, the controller outputs a first control signal to the switch to increase the number of winding of the linear motor coil.
4. The apparatus of claim 1, wherein when a current dead zone, where a current value output from the current detector is zero for a predetermined time does not exist, the controller outputs a second control signal to the switch to decrease the number of winding of the linear motor coil.

P23901.S03

5. The apparatus of claim 1, wherein the controller outputs a first control signal to the switch to increase the number of winding of the linear motor coil when a current dead zone, where a current value output from the current detector is zero for a predetermined time exists, and outputs a second control signal to the switch to decrease the number of winding of the linear motor coil when the current dead zone does not exist.

6. The apparatus of claim 5, wherein the switch is connected to the first coil and the second coil when the first control signal is received, the first coil being connected to the second coil in series, and is connected to the first coil when the second control signal is received.

7. The apparatus of claim 1, wherein the switch varies the number of winding of the linear motor coil on the basis of the control signal and thereby varies a current applied to the linear motor.

8. The apparatus of claim 1, wherein the switch is a relay.

9. A method for controlling a driving of a linear motor, comprising:  
detecting a current applied to the linear motor;  
generating a control signal based on the detected current; and  
varying the number of windings of a linear motor coil on the basis of the control signal.

P23901.S03

10. The method of claim 9, wherein the linear motor comprises a first coil wound with a first predetermined number of windings and a second coil wound with a second predetermined number of windings and connected to the first coil in series.

11. The method of claim 10, wherein the generating the control signal comprises:

generating a first control signal to increase the number of windings of the linear motor coil when a current dead zone, where a current value output from a current detecting unit is zero for a predetermined time exists, and

generating a second control signal to decrease the number of windings of the linear motor coil when the current dead zone does not exist.

12. The method of claim 11, wherein the varying the number of winding of the linear motor coil comprises:

supplying power to the linear motor through the second coil when the first control signal is received; and

supplying power to the linear motor through the first coil when the second control signal is received.

13. The method of claim 9, wherein the number of winding of the linear motor coil varies on the basis of the control signal and a current applied to the linear motor varies due to a variation in the number of winding of the linear motor coil.

P23901.S03

14. The Apparatus according to claim 1, wherein said motor is installed in a linear compressor.

15. The method according to claim 9, wherein the linear motor is provided in a linear compressor.